

## DOCUMENT RESUME

ED 397 613

EC 304 945

AUTHOR Ancarrow, Janice S.  
TITLE Supply of Personnel in Special Education, United States: 1969-70 to 1992-93.  
PUB DATE Mar 95  
NOTE 23p.; Paper presented at the Annual International Convention of the Council for Exceptional Children (74th, Orlando, FL, April 1-5, 1996).  
PUB TYPE Statistical Data (110) -- Reports - Evaluative/Feasibility (142) -- Speeches/Conference Papers (150)  
EDRS PRICE MF01/PC01 Plus Postage.  
DESCRIPTORS \*Allied Health Occupations; Career Choice; \*Degrees (Academic); \*Disabilities; Education Majors; Elementary Secondary Education; Federal Aid; Higher Education; Sex; \*Special Education; \*Special Education Teachers; \*Teacher Supply and Demand; Trend Analysis  
IDENTIFIERS Integrated Postsecondary Education Data System

## ABSTRACT

This report presents data from the Integrated Postsecondary Education Data System and the Division of Personnel Preparation's database of supported teacher trainees for the years 1990-91 and 1991-92, on degrees awarded in special education and related health professions. Data are reported by field of study, by level of degree, and by gender. The report is intended to offer a snapshot of the supply side of personnel potentially entering the field of special education. Analysis suggests self-selection, by gender, of students graduating in the various subfields of special education as well as a generally negative situation in the supply of personnel, especially for leadership personnel in low-incidence areas. Trend data are presented to illustrate the downward spiral in total graduates in special education from 1969-70 to fewer than half that number in 1992-93. Analysis suggests the importance of increasing personnel preparation monies in the reauthorization of the Individuals with Disabilities Education Act and suggests a "payback" provision in which trainees supported with federal funds make a service commitment. Six tables present the data in detail. (DB)

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**SUPPLY OF PERSONNEL IN SPECIAL EDUCATION,  
UNITED STATES: 1969-70 TO 1992-93**

Janice S. Ancarrow  
Research Analyst  
Division of Personnel Preparation  
Office of Special Education Programs  
Office of Special Education and Rehabilitative Services  
3515 Switzer Building  
330 "C" St., SW  
Washington, DC 20202-2651  
  
Tel. No. (202) 205-8274  
Fax No. (202) 205-9070  
E-mail address: Janice\_Ancarrow@ED.gov

March 1995

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**SUPPLY OF PERSONNEL IN SPECIAL EDUCATION,  
UNITED STATES: 1969-70 TO 1992-93**

Janice S. Ancarrow

**ABSTRACT**

On the threshold of reauthorization of the Individuals with Disabilities Education Act (IDEA), Congress has at its disposal considerable research compiled over the last 20 years on providing a Free, Appropriate Public Education to children with disabilities, which will be invaluable to Congress in its deliberations. Central among the useful data are figures describing the supply side of personnel available to meet the educational and related services needs of these children and their families.

Contained in this report are data on degrees in special education and related health professions which have been conferred by institutions of higher education, by level of degree, and by sex (from the Integrated Postsecondary Education Data System). Also described are data from the Division of Personnel Preparation's database of teacher trainees supported through its grant awards under Part D of IDEA (Pub. L. 101-476).

## INTRODUCTION

With the passage of Federal legislation to ensure a Free, Appropriate Public Education (FAPE) in the Least Restrictive Environment (LRE), great strides have been made in meeting the educational and related needs of children with disabilities and their families. On the threshold of reauthorization of the Individuals with Disabilities Education Act (IDEA), a current national picture is needed of children receiving services; supply of, and demand for, related services personnel and teachers to serve the needs of individuals from birth to 21, as well as demographic information, professional background, plans to remain in teaching, years to retirement, and opinions about school climate; principals' background and experience, plans to remain, and years to retirement; capacity of universities to meet the training needs for new teachers, related services personnel, and leadership personnel; complete data for low-incidence groups; and sources and amounts of financial support, from Federal, State, and local funding, as well as data on how such funds are spent.

Several reports are now available to shed light on these issues, some of which have been prepared by the author from data collected by the National Center for Education Statistics (NCES); specifically, a major report on teacher characteristics (from the Schools and Staffing Survey, 1987-88) (SASS), one on principal characteristics (from SASS, 1991, data), and one on student-teacher ratios by race/ethnicity (from the Teacher Demand and Shortage Survey, 1988). A planned summary report will combine data from these reports with new information from more recent surveys, as well as never before produced profile information on special education doctorates.

This report is focused on recent graduates in the field of special education (from NCES's Integrated Postsecondary Education Data System) (IPEDS) during school years 1990-91 and 1991-92. In other words, these data present a snapshot of the supply side of personnel available in the so-called resource pool of eligibles who may enter teaching in the field of special education. Some comparisons with other fields are made to sharpen one's perspective in attributing meaning to these data. Some gender comparisons are presented to highlight the magnitude of self-selection, by gender, of students graduating in the various subfields of special education.

Data in low-incidence areas illuminate the negative situation of shrinkage in the supply pipeline, which is even more critical for leadership personnel in low-incidence areas.

Finally, some trend data are presented on total awards in special education, by level of degree, to illustrate the downward spiral in total graduates in special education over the last 15 years, as well as in every

level of award. Thus, even graduates in high-incidence training areas, in which some teacher-trainees have been receiving Part D of IDEA stipend support, have dropped off dramatically.

## ANALYSIS AND RESULTS

### DPP Data

To set the stage for interpreting the earned degree data, a matrix of the most recent counts available (from various sources) for children served, teachers employed and needed, trainees currently supported through grants awarded by the Division of Personnel Preparation (DPP), and IPEDS completions was developed by the author. These data are displayed in the attached table 1, which is entitled, "Profile of Special Education in the United States." (Sources and dates are listed in the table.) With the 3-pronged thrust that the Office of Special Education Programs (OSEP) is making for reauthorization of IDEA (expanded Federal role for low-incidence; quality for high-incidence; and increased leadership support), categories in this table were created to split the student and teacher data into the low-incidence disability categories versus other categories of disability; and the degree data separated into levels, by these same categories, where possible. (IPEDS reporting nomenclature at the summary level does not include autism, deaf-blindness, and traumatic brain injury, for example; therefore, these graduates are most likely contained in the category called, "Special education, other," which is shown at the bottom of this table.)

The reader is cautioned that the DPP trainee data were produced by a programmer using a keyword search on the grantee database for any indication of involvement in categories which had been circled by DPP Project Officers on DPP's code sheets for Fiscal Year 1994. Because one project code sheet might represent 30 trainees, for example, with a multidisciplinary approach, any of a number of disability training categories could have been circled on that code sheet, depending on what the project proposal described as the content of the project. For each circled training category, a keyword was entered into the database: Those 30 trainees on our hypothetical code sheet could be counted each time one of those keywords was searched on. The broadest definition was thus used by the programmer to obtain counts of trainees in low-incidence disability training areas. If a project code sheet listed autism, hearing impairments, vision impairments, and multiple/severe, for example, those trainees would be captured by a keyword search of the database for each one of those disability areas. The detail in that column is, thus, by nature very soft data. To offset this unavoidable duplication of counts using a keyword search method, the author has shown an unduplicated total count of DPP trainees in the total ("All disabilities") line of the Profile table, which is based on adding up the number trained for each grant competition under Part D, and summing across competitions to arrive at the total. Thus, the total

represents an unduplicated count of the number trained in all of DPP's preservice projects for FY '94. (However, the detail in that column will not add to the total. As explained above, the keyword search gives an inflated number that represents all projects listing an emphasis on that disability area, whatever it is. If one project lists 6 disability areas, its trainees will be counted 6 times, once for each disability area in the keyword search.)

Further, many categories of personnel preparation funded with Part D funds are not described by disability categories; rather, they consist of descriptors for occupational category, or activity; e.g., psychologist, research, physical therapist, administration, etc. Trainees who could not be forced into one of the disability categories of the matrix are not represented in the row detail. Thus, besides the problem of multiple counts for the trainees who are counted more than once by virtue of being listed in association with more than one disability category, many trainees are not counted at all by disability category. However, they are included in the unduplicated total count of DPP FY'94 preservice trainees of 16,901.

#### IPEDS Data

Tables 2 and 3, respectively, depict the number of awards by level (and percentage of men versus women) for special education subfields, and for health professions and related sciences for 1991-92 graduates. These data represent universe totals for all public and private colleges and universities in the IPEDS completions survey. Women predominate in every subfield of special education and these health subfields at the bachelor's level except for dentistry, orthotics/prosthetics, and the category labeled "Miscellaneous health professions." At the master's level, a few more subfields, in addition to those exceptions, are male dominated: dental services, "Health and medical diagnostic and treatment services, total," "Health and medical preparation programs, total," and pharmacy. At the doctoral level, some shifts occur: Although across all fields of earned bachelor's and master's degrees women predominate in the totals, for doctorates men dominate (almost 2/3 of all doctorates were awarded to men). By doctoral subfield, half the awards in education of the mentally handicapped went to men; the other half, to women. Other fields in which men predominated at the doctoral level (in addition to those at the bachelor's and master's levels) were community health liaison, medical laboratory technologies, medical basic sciences, optometry, physical therapy, and "Health professions related sciences, other." Doctorates in Recreational therapy were split half and half between men and women.

In tables 4 and 5, the same basic information is displayed for school year 1990-91. With a few notable exceptions, the patterns in the data are similar to those cited above for tables 2 and 3. For some reason the category "Rehabilitative services, other" had more doctorates awarded to

men than to women in 1990-91; the reverse was true in 1991-92. More doctorates were awarded to men in medicine in 1990-91; for 1991-92, doctorates were not reported in medicine in this series (health professions and related sciences). Although women predominated dramatically in physical therapy doctorates awarded in 1990-91, as noted above (table 3), more physical therapy doctorates went to men the following year (table 5).

Some of the most astounding findings from two of these tables (2 and 4) involve the "0" cells at the doctoral level, adding emphasis to the dire need for increased Federal support of leadership training at the doctoral level, especially in low-incidence subfields of special education. Specifically, no doctorates were awarded in 1991-92 in the following fields (IPEDS nomenclature is used here to avoid confusion but it is not "person-first" language): deaf and hearing impaired, multiple handicapped, physically handicapped, blind and visually handicapped, and speech impaired. (Note: IPEDS reports Gifted and Talented as a special education subfield; so, although it is shown here in tables 2 and 4 because IPEDS collects it this way, the author subtracted out these data on gifted and talented to arrive at the numbers shown under IPEDS Completions in the Profile table (table 1) of this report. Obviously, gifted and talented is not a disability category as defined in IDEA.) During 1990-91 the picture was just as bleak: Although 1 doctorate was awarded in education of the multiple handicapped, none were awarded in education of the mentally handicapped. Several subfields graduated only 1 or 2 doctorates each of these years; even in learning disabilities, only 7 doctorates were awarded in 1991-92.

By far the most dramatic gender difference in these two years of data affects the deaf and hearing impaired student population: only 2 percent of the bachelor's degrees were awarded to men in this subfield.

### SUMMARY

At the summary level, of more than 1 million bachelor's degrees awarded in 1991-92, over 100,000 were awarded in the education field; of those, close to 8,000 were awarded in special education. For more than 350,000 master's degrees, about 92,000 went to the education field, with over 9,000 in special education. Among doctorates, for all fields, over 40,000; for education, close to 7,000; of those, only 192 in special education. The pattern, overall, is similar for the previous year.

The final table (table 6) displays trend data for earned degrees in special education from 1969-70 through 1992-93. The number of bachelor's degrees awarded increased initially during the early to mid-70's, then dropped from a high of 18,545 in 1975-76 to a low of 6,573 in 1987-88. Although small increases are shown for the most recent data years, the overall trend has been a sharp downward spiral to fewer than half of the

number of bachelor's degrees granted at their peak. A similar trend occurred for master's degrees but not as sharp a drop--increasing initially then dropping from 14,144 in 1977-78 to a low of 8,581 in 1987-88. For doctorates, as well, a downward spiral occurred from a high of 308 in 1977-78 to a low of 183 in 1990-91. Then, as with the other levels of awards, small increases have occurred in recent years. In general, compared to men, women have been capturing an increasingly larger number of doctorates in special education, a trend that began during school year 1978-79. (See figure 1 below.)

### IMPLICATIONS

One should remember that these drops occurred even while Part D of IDEA personnel preparation monies have been supporting teacher trainees. If this support is reduced or removed, even for high-incidence subfields, the ensuing escalation of drops in numbers of graduates in special education could create disastrous shortages of teachers for children with disabilities. This author believes that these data do not lie--rather, they argue strongly for increased Federal support for low-incidence and high-incidence subfields. Instead of robbing Peter to pay Paul, these data insist that a push needs to be made for increased levels of Federal funds for both groups of teachers, in addition to expanding leadership training monies to produce more special education teacher trainers among college faculty.

Along with overall increases needed in Federal funding for personnel training in special education, individual student stipends should be increased to keep pace with inflation and the current reality that older students, most with families to support, come back into the training pipeline for a master's or a doctorate. They cannot stay in the program until graduation unless they have adequate stipends. Many able potential trainees with families would not risk giving up secure jobs without substantial stipends. The problem is worse for postdoctoral recruitment/retention, especially for minorities who tend to have families earlier, as well as to have larger families.

Finally, the author urges the Department to include a "payback" provision in its reauthorization request. The pipeline of personnel trained with Part D monies has been leaking. Without a service commitment required of trainees supported with Federal funds, no assurance of retaining these graduates in field has been obtained in prior years. Attrition is known to be higher for new teachers, during the first three years of teaching, especially for special educators. If these holes in the pipeline are plugged with a payback requirement, then perhaps OSEP can gain some ground in its struggle to provide the field with sufficient personnel to meet the needs of all children with disabilities. If subsequent OSEP-supported trainees do not stay in field after graduation, at least some of the funds could be recouped

from them to support other personnel who will remain to serve our Nation's children with special needs.

(The opinions expressed herein are those of the author and may not necessarily be endorsed by DPP, OSEP, or the Department.)

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Table 1. - Profile of special education in the United States: Various years

| Disability Category            | School year 1992-93<br>Students 6-21 |           |         | School year 1991-92<br>Teachers |        | FY '94<br>DPP<br>Trainees* | School year 1991-92<br>IPEDS Completions |         |            |
|--------------------------------|--------------------------------------|-----------|---------|---------------------------------|--------|----------------------------|------------------------------------------|---------|------------|
|                                | Total                                | Part B    | SOP     | Employed                        | Needed |                            | Bachelors                                | Masters | Doctorates |
| All disabilities               | 4,633,674                            | 4,452,117 | 181,567 | 308,904                         | 27,282 | 16,901                     | 7,866                                    | 9,236   | 192        |
| Low-incidence                  |                                      |           |         |                                 |        |                            |                                          |         |            |
| Multiple disabilities          | 103,215                              | 86,179    | 17,036  | 7,767                           | 700    | 2,094                      | 85                                       | 114     | 0          |
| Hearing impairments            | 60,896                               | 43,707    | 17,189  | 7,025                           | 727    | 459                        | 236                                      | 175     | 0          |
| Visual impairments             | 23,811                               | 18,129    | 5,682   | 3,025                           | 336    | 247                        | 25                                       | 17      | 0          |
| Autism                         | 15,527                               | 12,238    | 3,289   | 1,126                           | 326    | 142                        | --                                       | --      | --         |
| Deaf-blindness                 | 1,425                                | 773       | 652     | 150                             | 41     | 105                        | --                                       | --      | --         |
| Traumatic brain injury         | 3,903                                | 2,906     | 997     | 68                              | 35     | 49                         | --                                       | --      | --         |
| Other disabilities             |                                      |           |         |                                 |        |                            |                                          |         |            |
| Orthopedic impairments         | 52,921                               | 46,498    | 6,423   | 3,612                           | 313    | 347                        | 29                                       | 47      | 0          |
| Other health impairments       | 66,054                               | 63,982    | 2,072   | 2,159                           | 260    | 80                         | --                                       | --      | --         |
| Specific learning disabilities | 2,369,385                            | 2,333,571 | 35,814  | 97,806                          | 8,003  | 4,968                      | 468                                      | 661     | 7          |
| Speech or language impairments | 1,000,154                            | 990,718   | 9,436   | 43,610                          | 3,907  | 948                        | 653                                      | 288     | 0          |
| Mental retardation             | 533,715                              | 484,871   | 48,844  | 43,142                          | 3,079  | 461                        | 551                                      | 221     | 2          |
| Serious emotional disturbance  | 402,668                              | 368,545   | 34,123  | 29,496                          | 4,724  | 5,874                      | 240                                      | 207     | 1          |
| Cross-categorical              | --                                   | --        | --      | 69,919                          | 4,833  | --                         | 5,332                                    | 7,194   | 173        |
| Special education, other       | --                                   | --        | --      | --                              | --     | --                         | 247                                      | 312     | 9          |

\*Total is unduplicated count of individual trainees in preservice grants; however, detail in rows for this column represents multiple counts for individuals, obtained through keyword searches of training categories listed in database (keyed in from categories of training which were circled on project code sheets. Many areas of training are not described by a disability category, but represent occupational categories or activities (e.g., psychologists, research, physical therapy, etc.). Individuals trained in those areas cannot be represented in a matrix of disability categories, but the numbers trained are included in the total of 16,901. "SOP" = State-operated programs; "--" = Not reported in this manner. "Part B" refers to Part B of IDEA, Pub. L. 101-476.

SOURCES: OSERS 16th Annual Report, for student and teacher data; DPP trainee data are from DPP's project grantee database for FY '94; IPEDS Completions are from the Digest of Education Statistics, 1994, NCES, OERI, U.S. Department of Education.

Table 2 -- Percentage of bachelor's, master's, and doctor's degrees conferred in special education and related fields by institutions of higher education, by sex of student and subfield of study: 1991-92

| Field of Study                                 | Level of degree    |                   |                     |                  |                   |                     |                  |                   |                     |
|------------------------------------------------|--------------------|-------------------|---------------------|------------------|-------------------|---------------------|------------------|-------------------|---------------------|
|                                                | Bachelor's degrees |                   |                     | Master's degrees |                   |                     | Doctor's degrees |                   |                     |
|                                                | Total number       | Percentage of men | Percentage of women | Total number     | Percentage of men | Percentage of women | Total number     | Percentage of men | Percentage of women |
| All fields                                     | 1,136,553          | 46                | 54                  | 352,838          | 46                | 54                  | 40,659           | 63                | 37                  |
| Education, total                               | 106,006            | 21                | 79                  | 92,668           | 23                | 77                  | 6,864            | 41                | 59                  |
| Education administration & supervision, total  | 20                 | 20                | 80                  | 10,329           | 39                | 61                  | 2,131            | 47                | 53                  |
| Administration of special education            | 12                 | 17                | 83                  | 9                | 11                | 89                  | 15               | 13                | 87                  |
| Educational evaluation, research, & statistics | 19                 | 16                | 84                  | 161              | 34                | 66                  | 97               | 41                | 59                  |
| School psychology                              | 39                 | 26                | 72                  | 458              | 19                | 81                  | 65               | 31                | 69                  |
| Special education, total                       | 7,667              | 8                 | 92                  | 9,420            | 13                | 87                  | 192              | 27                | 73                  |
| Special education, general                     | 5,332              | 8                 | 92                  | 7,194            | 13                | 87                  | 173              | 28                | 72                  |
| Education of the deaf and hearing impaired     | 236                | 2                 | 98                  | 175              | 14                | 86                  | 0                | --                | --                  |
| Education of the gifted and talented           | 1                  | 0                 | 100                 | 184              | 10                | 90                  | 0                | --                | --                  |
| Education of the emotionally handicapped       | 240                | 13                | 87                  | 207              | 25                | 75                  | 1                | 100               | 0                   |
| Education of the mentally handicapped          | 551                | 5                 | 95                  | 221              | 14                | 86                  | 2                | 50                | 50                  |
| Education of the multiple handicapped          | 85                 | 8                 | 92                  | 114              | 17                | 83                  | 0                | --                | --                  |
| Education of the physically handicapped        | 29                 | 21                | 79                  | 47               | 15                | 85                  | 0                | --                | --                  |
| Education of blind & visually handicapped      | 25                 | 12                | 88                  | 17               | 12                | 88                  | 0                | --                | --                  |
| Education of specific learning disabled        | 468                | 4                 | 96                  | 661              | 9                 | 91                  | 7                | 0                 | 100                 |
| Education of the speech impaired               | 653                | 3                 | 97                  | 288              | 8                 | 92                  | 0                | --                | --                  |
| Special education, other                       | 247                | 13                | 87                  | 312              | 13                | 87                  | 9                | 11                | 89                  |
| Counselor ed/counseling, guidance services     | 44                 | 27                | 73                  | 11,429           | 22                | 78                  | 372              | 43                | 57                  |

NOTE: "--" = Not applicable; "+" = Not reported in this series. Detail in total columns may not add to subtotals because inapplicable categories have been omitted.

SOURCE: IPEDS (public and private colleges and universities), NCES, OERI, U.S. Department of Education.

Table 3.—Percentage of bachelor's, master's, and doctor's degrees conferred in health professions and related fields by institutions of higher education, by sex of student and subfield of study, 1991–92

| Field of Study                                | Bachelor's degrees |                   |                     | Level of degree |                   |                     | Doctor's degrees |                   |                     |
|-----------------------------------------------|--------------------|-------------------|---------------------|-----------------|-------------------|---------------------|------------------|-------------------|---------------------|
|                                               | Total number       | Percentage of men | Percentage of women | Total number    | Percentage of men | Percentage of women | Total number     | Percentage of men | Percentage of women |
| All fields                                    | 1,136,553          | 46                | 54                  | 352,638         | 46                | 54                  | 40,659           | 63                | 37                  |
| Health professions & related sciences, total  | 61,720             | 17                | 83                  | 23,065          | 20                | 80                  | 1,661            | 42                | 58                  |
| Chiropractic                                  | 0                  | —                 | —                   | 0               | —                 | —                   | 0                | —                 | —                   |
| Communication disorders sciences & services   | 4,157              | 4                 | 96                  | 3,541           | 4                 | 96                  | 81               | 27                | 73                  |
| Community health liaison                      | 327                | 24                | 76                  | 130             | 26                | 74                  | 23               | 65                | 35                  |
| Dentistry                                     | 85                 | 54                | 46                  | 325             | 68                | 32                  | 13               | 85                | 15                  |
| Dental services                               | 732                | 5                 | 95                  | 72              | 67                | 33                  | 0                | —                 | —                   |
| Health services administration, total         | 3,222              | 22                | 78                  | 3,103           | 33                | 67                  | 57               | 44                | 56                  |
| Health & medical assistants, total            | 697                | 49                | 51                  | 136             | 29                | 71                  | 0                | —                 | —                   |
| High & med. diagnos. & treatment svcs., total | 1,159              | 37                | 63                  | 23              | 61                | 39                  | 0                | —                 | —                   |
| Medical laboratory technologies, total        | 2,375              | 27                | 73                  | 464             | 48                | 52                  | 69               | 52                | 48                  |
| Health & med. prep. programs, total           | 5,306              | 42                | 58                  | 133             | 58                | 42                  | 73               | 58                | 42                  |
| Medicine                                      | +                  | —                 | —                   | +               | —                 | —                   | +                | —                 | —                   |
| Medical basic sciences                        | 224                | 31                | 69                  | 153             | 42                | 58                  | 232              | 55                | 45                  |
| Mental health services, total                 | 483                | 15                | 85                  | 411             | 22                | 78                  | 14               | 43                | 57                  |
| Nursing                                       | 31,029             | 8                 | 92                  | 7,512           | 7                 | 93                  | 406              | 5                 | 95                  |
| Optometry                                     | 140                | 45                | 55                  | 12              | 33                | 67                  | 6                | 67                | 33                  |
| Pharmacy                                      | 1,280              | 38                | 62                  | 118             | 59                | 41                  | 201              | 59                | 41                  |
| Epidemiology                                  | 0                  | —                 | —                   | 210             | 45                | 55                  | 69               | 39                | 61                  |
| Rehabilitation/therapeutic services, total    | 6,316              | 18                | 82                  | 3,067           | 23                | 77                  | 26               | 43                | 57                  |
| Art therapy                                   | 49                 | 2                 | 98                  | 172             | 14                | 86                  | 0                | —                 | —                   |
| Dance therapy                                 | 5                  | 0                 | 100                 | 46              | 9                 | 91                  | 0                | —                 | —                   |
| Music therapy                                 | 153                | 10                | 90                  | 33              | 24                | 76                  | 0                | —                 | —                   |
| Occupational therapy                          | 2,149              | 8                 | 92                  | 466             | 10                | 90                  | 2                | 0                 | 100                 |
| Orthotics/prosthetics                         | 29                 | 62                | 38                  | 0               | —                 | —                   | 0                | —                 | —                   |
| Physical therapy                              | 3,111              | 25                | 75                  | 1,533           | 27                | 73                  | 7                | 57                | 43                  |
| Recreational therapy                          | 124                | 11                | 89                  | 3               | 0                 | 100                 | 2                | 50                | 50                  |
| Vocational rehabilitation counseling          | 93                 | 23                | 77                  | 515             | 23                | 77                  | 7                | 43                | 57                  |
| Rehabilitative services, other                | 606                | 20                | 80                  | 299             | 27                | 73                  | 10               | 40                | 60                  |
| Miscellaneous health professions              | 341                | 60                | 40                  | 68              | 63                | 37                  | 25               | 66                | 34                  |
| Health professions & related sciences, other  | 3,574              | 26                | 74                  | 3,442           | 35                | 65                  | 230              | 53                | 47                  |

NOTE: "—" = Not applicable. "+" = Not reported in this series. Detail in total columns may not add to subtotals because inapplicable categories have been omitted (e.g., veterinary medicine).

SOURCE: IPEDS (public and private colleges and universities), NCES, OERI, U.S. Department of Education.

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Table 4 -- Percentage of bachelor's, master's, and doctor's degrees conferred in special education and related fields by institutions of higher education, by sex of student and subfield of study: 1990-91

| Field of Study                                 | Level of degree    |                   |                     |                  |                   |                     |                  |                   |                     |
|------------------------------------------------|--------------------|-------------------|---------------------|------------------|-------------------|---------------------|------------------|-------------------|---------------------|
|                                                | Bachelor's degrees |                   |                     | Master's degrees |                   |                     | Doctor's degrees |                   |                     |
|                                                | Total number       | Percentage of men | Percentage of women | Total number     | Percentage of men | Percentage of women | Total number     | Percentage of men | Percentage of women |
| All fields                                     | 1,094,538          | 48                | 54                  | 337,168          | 46                | 54                  | 39,294           | 63                | 37                  |
| Education, total                               | 110,807            | 21                | 79                  | 87,343           | 23                | 77                  | 6,187            | 42                | 58                  |
| Education administration & supervision, total  | 41                 | 17                | 83                  | 9,904            | 40                | 60                  | 2,055            | 48                | 52                  |
| Administration of special education            | 12                 | 17                | 83                  | 17               | 8                 | 94                  | 11               | 45                | 55                  |
| Educational evaluation, research, & statistics | 18                 | 6                 | 94                  | 155              | 30                | 70                  | 148              | 45                | 55                  |
| School psychology                              | 204                | 14                | 86                  | 1,618            | 22                | 78                  | 510              | 38                | 62                  |
| Special education, total                       | 6,976              | 8                 | 92                  | 9,059            | 12                | 88                  | 183              | 26                | 74                  |
| Special education, general                     | 4,722              | 8                 | 92                  | 6,894            | 13                | 87                  | 163              | 25                | 75                  |
| Education of the deaf and hearing impaired     | 220                | 5                 | 95                  | 185              | 9                 | 91                  | 0                | --                | --                  |
| Education of the gifted and talented           | 1                  | 0                 | 100                 | 140              | 9                 | 91                  | 0                | --                | --                  |
| Education of the emotionally handicapped       | 197                | 13                | 87                  | 208              | 18                | 82                  | 1                | 100               | 0                   |
| Education of the mentally handicapped          | 543                | 4                 | 96                  | 194              | 8                 | 92                  | 0                | --                | --                  |
| Education of the multiple handicapped          | 70                 | 9                 | 91                  | 96               | 13                | 87                  | 1                | 100               | 0                   |
| Education of the physically handicapped        | 19                 | 5                 | 95                  | 36               | 3                 | 97                  | 0                | --                | --                  |
| Education of blind & visually handicapped      | 20                 | 25                | 75                  | 10               | 30                | 70                  | 0                | --                | --                  |
| Education of specific learning disabled        | 343                | 8                 | 92                  | 673              | 5                 | 95                  | 11               | 27                | 73                  |
| Education of the speech impaired               | 605                | 5                 | 95                  | 211              | 7                 | 93                  | 0                | --                | --                  |
| Special education, other                       | 236                | 6                 | 94                  | 412              | 12                | 88                  | 7                | 43                | 57                  |
| Counselor ed./counseling, guidance services    | 49                 | 12                | 88                  | 11,094           | 22                | 78                  | 361              | 40                | 60                  |

NOTE: "--" = Not applicable. Detail in total columns may not add to subtotals because inapplicable categories have been omitted.

SOURCE: IPEDS (public and private colleges and universities); NCES, OERI, U.S. Department of Education.

Table 5--Percentage of bachelor's, master's, and doctor's degrees conferred in health professions and related fields by institutions of higher education, by sex of student and subfield of study, 1990-91

| Field of Study                                      | Bachelor's degrees |                   |                     | Level of degree |                   |                     | Doctor's degrees |                   |                     |
|-----------------------------------------------------|--------------------|-------------------|---------------------|-----------------|-------------------|---------------------|------------------|-------------------|---------------------|
|                                                     | Total number       | Percentage of men | Percentage of women | Total number    | Percentage of men | Percentage of women | Total number     | Percentage of men | Percentage of women |
| All fields                                          | 1,094,538          | 46                | 54                  | 337,168         | 46                | 54                  | 30,294           | 63                | 37                  |
| Health professions & related sciences, total        | 59,070             | 16                | 84                  | 21,200          | 21                | 79                  | 1,613            | 43                | 57                  |
| Chiropractic                                        | 0                  | --                | --                  | 1               | 100               | 0                   | 0                | --                | --                  |
| Communication disorders sciences & services         | 3,235              | 4                 | 96                  | 3,171           | 5                 | 95                  | 92               | 26                | 74                  |
| Community health liaison                            | 564                | 17                | 83                  | 636             | 25                | 75                  | 83               | 52                | 48                  |
| Dentistry                                           | 81                 | 73                | 27                  | 356             | 71                | 29                  | 21               | 76                | 24                  |
| Dental services                                     | 691                | 1                 | 99                  | 24              | 4                 | 96                  | 0                | --                | --                  |
| Health services administration, total               | 3,078              | 23                | 77                  | 3,042           | 33                | 67                  | 43               | 47                | 53                  |
| Health & medical assistants, total                  | 643                | 45                | 55                  | 119             | 38                | 62                  | 0                | --                | --                  |
| Health & medical diagnosis & treatment svcs., total | 1,012              | 37                | 63                  | 44              | 70                | 30                  | 0                | --                | --                  |
| Medical laboratory technologies, total              | 2,471              | 28                | 72                  | 1,373           | 35                | 65                  | 133              | 51                | 49                  |
| Health & med prep programs, total                   | 567                | 62                | 38                  | 0               | --                | --                  | 0                | --                | --                  |
| Medicine                                            | 113                | 61                | 39                  | 37              | 65                | 35                  | 6                | 67                | 33                  |
| Medical basic sciences                              | 165                | 36                | 64                  | 91              | 48                | 52                  | 95               | 67                | 33                  |
| Mental health services, total                       | 278                | 18                | 82                  | 190             | 31                | 69                  | 0                | --                | --                  |
| Nursing                                             | 29,361             | 7                 | 93                  | 7,129           | 9                 | 91                  | 406              | 9                 | 91                  |
| Optometry                                           | 198                | 52                | 48                  | 19              | 68                | 32                  | 5                | 80                | 20                  |
| Osteopathic medicine                                | 4                  | 75                | 25                  | 4               | 75                | 25                  | 0                | --                | --                  |
| Pharmacy                                            | 6,066              | 39                | 61                  | 269             | 56                | 44                  | 205              | 63                | 37                  |
| Epidemiology                                        | 0                  | --                | --                  | 261             | 39                | 61                  | 50               | 36                | 64                  |
| Rehabilitative/therapeutic services, total          | 6,436              | 19                | 81                  | 2,479           | 21                | 79                  | 18               | 33                | 67                  |
| Art therapy                                         | 30                 | 0                 | 100                 | 132             | 7                 | 93                  | 0                | --                | --                  |
| Dance therapy                                       | 7                  | 0                 | 100                 | 39              | 10                | 90                  | 0                | --                | --                  |
| Music therapy                                       | 163                | 9                 | 91                  | 21              | 10                | 90                  | 0                | --                | --                  |
| Occupational therapy                                | 2,090              | 6                 | 94                  | 401             | 7                 | 93                  | 0                | --                | --                  |
| Orthotics/prosthetics                               | 17                 | 76                | 24                  | 0               | --                | --                  | 0                | --                | --                  |
| Physical therapy                                    | 3,425              | 26                | 74                  | 1,067           | 26                | 74                  | 6                | 17                | 83                  |
| Recreational therapy                                | 165                | 26                | 74                  | 3               | 33                | 67                  | 0                | --                | --                  |
| Vocational rehabilitation counseling                | 200                | 18                | 82                  | 602             | 24                | 76                  | 9                | 33                | 67                  |
| Rehabilitative services, other                      | 342                | 12                | 88                  | 194             | 21                | 79                  | 3                | 67                | 33                  |
| Miscellaneous health professions                    | 40                 | 45                | 55                  | 37              | 36                | 64                  | 0                | --                | --                  |
| Health professions & related sciences, other        | 3,627              | 26                | 74                  | 1,789           | 37                | 63                  | 352              | 55                | 45                  |

NOTE: "--" = Not applicable. Detail in total columns may not add to subtotals because inapplicable categories have been omitted (e.g., veterinary medicine).

SOURCE: IPEDS (public and private colleges and universities), NCES, OERI, U.S. Department of Education.

Table 6--Number of earned degrees conferred in special education by institutions of higher education, by level of degree and sex of student: 1969-70 to 1992-93

| School year | Level of degree    |           |        |                  |           |        |                  |           |       |
|-------------|--------------------|-----------|--------|------------------|-----------|--------|------------------|-----------|-------|
|             | Bachelor's degrees |           |        | Master's degrees |           |        | Doctor's degrees |           |       |
|             | Total number       | Number of |        | Total number     | Number of |        | Total number     | Number of |       |
|             |                    | Men       | Women  |                  | Men       | Women  |                  | Men       | Women |
| 1969-70     | 7,761              | 996       | 6,765  | 5,351            | 1,408     | 3,943  | 241              | 194       | 47    |
| 1970-71     | 8,360              | 1,106     | 7,254  | 5,962            | 1,531     | 4,431  | 198              | 137       | 61    |
| 1971-72     | 11,069             | 1,439     | 9,630  | 6,916            | 1,789     | 5,127  | 234              | 149       | 85    |
| 1972-73     | 15,133             | 1,881     | 13,252 | 8,177            | 1,985     | 6,192  | 227              | 154       | 73    |
| 1973-74     | 18,080             | 2,201     | 15,879 | 9,939            | 2,303     | 7,636  | 240              | 165       | 75    |
| 1974-75     | 18,292             | 2,130     | 16,162 | 11,396           | 2,360     | 9,036  | 234              | 128       | 106   |
| 1975-76     | 18,545             | 2,104     | 16,441 | 13,509           | 2,537     | 10,972 | 294              | 162       | 132   |
| 1976-77     | 17,260             | 1,794     | 15,466 | 13,941           | 2,473     | 11,468 | 297              | 168       | 129   |
| 1977-78     | 16,443             | 1,616     | 14,827 | 14,144           | 2,348     | 11,796 | 308              | 157       | 151   |
| 1978-79     | 15,442             | 1,348     | 14,094 | 13,585           | 2,135     | 11,450 | 292              | 127       | 165   |
| 1979-80     | 14,480             | 1,280     | 13,200 | 13,245           | 1,949     | 11,296 | 307              | 132       | 175   |
| 1980-81     | 13,930             | 1,093     | 12,837 | 13,500           | 1,847     | 11,653 | 275              | 105       | 170   |
| 1981-82     | 12,804             | 934       | 11,870 | 13,153           | 1,742     | 11,411 | 306              | 107       | 199   |
| 1982-83     | 11,418             | 816       | 10,602 | 11,301           | 1,399     | 9,902  | 271              | 99        | 172   |
| 1983-84     | 10,301             | 656       | 9,645  | 10,547           | 1,342     | 9,205  | 239              | 81        | 158   |
| 1984-85     | 9,134              | 574       | 8,560  | 9,933            | 1,211     | 8,722  | 235              | 81        | 154   |
| 1985-86     | 8,206              | 540       | 7,666  | 9,311            | 1,079     | 8,232  | 245              | 86        | 159   |
| 1986-87     | 6,996              | 492       | 6,504  | 8,826            | 1,025     | 7,801  | 230              | 61        | 169   |
| 1987-88     | 6,573              | 478       | 6,095  | 8,581            | 1,026     | 7,555  | 217              | 55        | 162   |
| 1988-89     | 6,667              | 440       | 6,227  | 8,791            | 1,031     | 7,760  | 251              | 45        | 206   |
| 1989-90     | 6,615              | 462       | 6,153  | 9,025            | 1,102     | 7,923  | 203              | 58        | 145   |
| 1990-91     | 6,976              | 526       | 6,450  | 9,059            | 1,106     | 7,953  | 183              | 48        | 135   |
| 1991-92     | 7,867              | 597       | 7,270  | 9,420            | 1,214     | 8,206  | 192              | 51        | 141   |
| 1992-93     | 8,657              | 674       | 7,983  | 9,765            | 1,324     | 8,441  | 249              | 67        | 182   |

NOTE: School year 1981-82 and prior years include "Administration of special education" in these numbers, as well as "Education of the culturally disadvantaged"; "Remedial education" and "Education of the gifted and talented" are included in all years of these collections.  
SOURCE: Various years from the Digest of Education Statistics, IPEDS Completions Survey, and HEGIS, its predecessor; NCES, OERI, U.S. Department of Education.

Figure 1. Doctorates in special education  
by sex, by year

